BREAST CANCER: CLINICAL AND HISTOPATHOLOGICAL FEATURES AT COMBINED MILITARY HOSPITAL RAWALPINDI

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ABSTRACT

Objective: This study was aimed to evaluate the various clinical and histopathological features of carcinoma of breast in the surgical unit of Combined Military Hospital (CMH) Rawalpindi in an attempt to appraise about the pattern of disease in this setting.

Study Design: Descriptive cross sectional study.

Place and Duration of Study: The study was conducted from September 2013 to August 2015 in surgical unit of CMH, Rawalpindi, Pakistan.

Material and Methods: A total of 446 female patients diagnosed with carcinoma breast in surgical unit CMH during 2 years were included in this study. Patient's age, clinical examination and histopathological findings were recorded.

Results: Among the 446 female patients, 269 patients (60.3%) presented in an age group between 40-49 years making it the most common age group. About 393 patients (88.1%) had the tumor size more than 2 cm. The commonest quadrant involved was upper outer quadrant (n=236; 52.9%). Axillary lymph nodes were positive in 76.0% (n=339) of patients. Most common type of carcinoma was invasive ductal carcinoma in 336 patients (75.3%). The disease was left sided in 249 cases. The most common was stage III (n=200) and grade II (n=289) carcinoma.

Conclusion: In our settings the breast cancer is affecting the middle age group more commonly with upper outer quadrant being the commonest site and invasive ductal carcinoma being the commonest variant. The majority of patients presented in the later stages of disease with a moderate grade, more common lymph node metastasis and a size larger than 2 cm.

Keywords: Breast neoplasms, Histology, Lymph node, Pathology.

INTRODUCTION

The breast cancer is the most frequently diagnosed cancer in Pakistani females just like in the rest of the world bearing a major impact on health of women[1]. However different populations have presented variations in its incidence rates that may be due to the difference in the etiological factors that affect the development of this cancer[2]. This ultimately affects the presentation, prognosis and management of disease. That is how the difference in trends arise in different races, making it an entirely different entity in our setting[3]. If the disease is confined to breast then this carcinoma is possibly labelled as a curable disease however the involvement of regional lymph nodes makes the cure difficult[4]. Different studies carried out so far have documented a metastatic breast cancer as incurable accounting for a higher percentage of mortality and morbidity[5]. We aimed to find out the disease pattern in our settings as we knew that our center is catering to a larger group of Pakistani female population encompassing all economic strata. This data will be of particular significance from epidemiological point of view where one would be able to compare our results with the results available for other populations in literature.

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Received: 16 Jun 2016; revised received: 18 Nov 2016; accepted: 22 Nov 2016

PATIENTS AND METHODS

This descriptive cross sectional study was carried out in the surgical department of

Combined Military Hospital (CMH), Rawalpindi from September 2013 to August 2015, after approval of hospital ethical committee. We recruited all those patients who were diagnosed to have breast carcinoma in CMH. It was non-probability purposive sampling. Four hundred and forty six females got enrolled in this study after obtaining their written informed consent[6]. sono mammogram as indicated, liver function tests and alkaline phosphatase levels were performed in all cases. In clinical stages I–II, additional tests like bone scan/ computed tomography (CT) chest/ CT abdomen and pelvis were done only if either local symptoms/ signs were present or if the liver function tests/ alkaline phosphatase were raised. However in all

Table-I: Different types of breast cancers in study patients (n=446).

Type	Subtype	Number of patients (percentage)
Lobular	Invasive	30 (6.72)
Ductal	Invasive	336 (75.33)
	Mucinous	20 (4.48)
	Medullary	15 (3.36)
	Papillary	8 (1.79)
	Tubular	3 (0.67)
	Inflammatory	3 (0.67)
Others	Mixed lobular and ductal	24 (5.38)
	Paget's disease of nipple	5 (1.12)
	Metaplastic	2(0.44)

Table-II: Stage, site of tumor and lymph node status in study patients (n=446).

Stage of cancer	Left sided (n=267)	Right sided (n=158)	Bilaterally (n=21)	Lymph node status		No.of patients (percentage)
				Positive	Negative	
Stage I	8	10	2	0	20	20 (4.4)
Stage II	66	83	9	100	58	158 (35.4)
Stage III	135	60	5	192	8	200 (44.8)
Stage IV	31	33	4	47	21	68 (15.2)

Table-III: Size of tumor in study patients (n=446).

Stages	T1 (<2cm)	T2 (>2,but <5cm)	T3 (>5cm)	T4 (any size involving Chest wall, skin or both)
Stage I	20	0	0	0
Stage II	23	117	18	0
Stage III	2	14	80	104
Stage IV	8	13	32	15

Patients with recurrent cancer, in situ cancer, patients who discontinued investigations/ treatment in our hospital, those who didn't consent to be part of study and those who left against medical advice were excluded from the study. For each patient who was diagnosed as having breast cancer, the history was recorded and physical examination was performed. Age and quadrant involved by the tumor was recorded on a proforma. Bilateral mammogram/ cases of clinical stage III we performed bone scan as well as CT chest/ abdomen and pelvis. After definitive surgery and final detailed histopathological report, size, grade, stage and histopathological type of tumor along with lymph node status were recorded on a proforma.

Data were entered and analysed using statistical package of social sciences version 16. The frequencies of different stages of breast cancer were presented by their numbers along

with percentages. Age and tumor size were stratified into groups. Lymph nodes, quadrants, grade and stage of tumor were presented by their frequencies.

RESULTS

The most common age group observed in this study was 40–49 years with 269 patients (60.3%), followed by 50–59 years with 86 patients (19.2%). There were 44 patients (9.8%) in 60-69 years age group, 34 patients in 30–39 years age group (7.6%), 7 patients in 20–29 years age group (1.5%), 4 patients in 70–79 years bracket (0.8%) and there were also two patients (0.4%) of 80 years.

The commonest type of cancer in this study was found to be the invasive ductal carcinoma which was observed in 336 patients (75.33%) out of a total of 446. The next in line was invasive lobular carcinoma with 30 patients (6.72%). Then was the mixed lobular and ductal carcinoma in 24 patients (5.38%), 20 patients (4.48%) were having mucinous type, 15 patients (3.36%) had medullary type, 8 patients (1.79%) had papillary carcinoma, 5 (1.12%) had paget's disease of nipple and 3 (0.67%) patients had tubular, 3 (0.67%) patients had inflammatory carcinomas and 2 (0.44%) patients had metaplastic carcinomas (table-I).

The left sided disease (n=268; 60.1%) was more common than the right sided (n=157; 35.2%) or bilateral (n=21; 4.7%). The most common quadrant involved was the upper outer one, observed in 236 patients (52.9%). The central area involvement was seen in 65 patients (14.5%). The lower outer quadrant was involved in 47 patients (10.5%). The upper inner quadrant in 63 (14%), lower inner quadrant was involved in 28 patients (6.2%) and axillary tail was involved in 7 patients (1.5%) (table-II, figure).

According to the stage of the disease, 20 patients (4.4%) presented with stage I of the disease, 158 (35.4%) with stage II out of which 58 presented with no axillary lymph node involvement and 100 patients presented with axillary lymph node involvement, 200 patients (44.8%) with stage III out of which 8 presented with negative axillary lymph nodes and 192 presented with positive axillary lymph nodes, and 68 patients (15.2%) with stage IV out of which 21 presented with no axillary lymph node involvement and 47 presented with positive axillary lymph nodes. Axillary lymph nodes were positive in a total of 339 patients (76.0%). About 12 patients (2.7%) presented with grade I, 289 (64.7%) with grade II, and 145 (32.5%) with grade III disease (table-III).

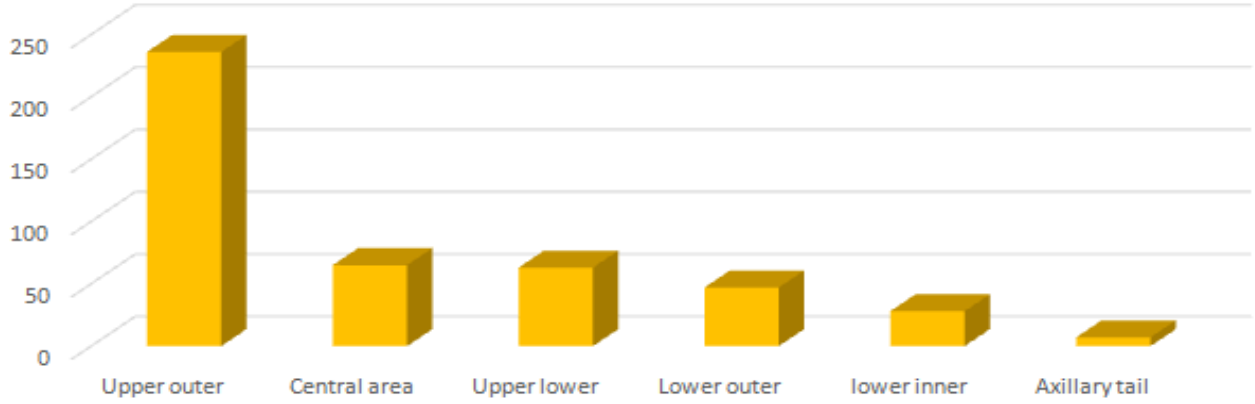

Figure: Involvement of different quadrants in study patients (n=446).

DISCUSSION

The prognosis of breast cancer is determined by many well-established factors including the age of the patient at the time of presentation, size of tumour, grade of tumour, histological type and lymph node metastasis to name a few[6]. These

factors helps in defining the biological behavior of tumour[7] as well. We chose to consider these basic parameters to study the disease pattern in our settings.

The commonest age of presentation of this disease in our clinical settings was relatively younger age group (40-49 years) in contrast to what has been reported in the western countries. There it is seen commonly in post-menopausal women[8]. Similar results have been reported by studies done in this region of the world[9,10]. Likewise the studies carried out on Iranian[11], Thai women[12] and Mexican women[13] have also given similar conclusions. The exact reason for this younger presentation may be young population structure, protective effect of high age at menarche and young age at first pregnancy on development of breast cancer in later life.

We found invasive ductal carcinoma to be the commonest histopathological type in our study group and this was in accordance with both national and international studies[14-16]. No one reported any other type of cancer to be more common than this one.

The breast lumps that are palpable at the time of presentation have about 12% chances to be carcinogenic[17]. Most of them presented as locally advanced disease[18]. However if they get detected earlier through self-examination or mammograms, the survival gets better[19].

It is worth mentioning here that the nodal status alone is regarded as a single most important prognostic factor in cancer of the breast that influences survival rate[20]. Thus a careful recording of axillary lymph nodes involvement is mandatory. We observed that a vast majority of our patients (88.11%) had the tumor size more than 2 cm. Moreover the axillary lymph node involvement as seen in 76.0% patients was not in accordance with what was observed in Caucasians. They had only 30% of patients presenting with large tumor and 15% had the involvement of lymph nodes[21].

The stage of cancer at the time of presentation is critical as the disease is curable in early stages. In our study the most common stage of carcinoma was stage III (n=200) followed by stage II (n=158). This similar late pattern of presentation of the disease was observed by Gilani et al where majority of the patients presented with the stage III[22]. Keeping this in view one needs to raise awareness of screening among Pakistani females. Moreover it has been observed with due concern that many developed countries with early and better screening programs help in early detection of this deadly disease which a developing country like ours is lacking[23]. The most common histopathological grade observed was II followed by grade III.

Size of the tumor is another prognostic feature with greater the size and more the lymph nodes involved, the worse the prognosis becomes. We found out that majority of our patients had large tumors with size more than 2 cm, at the time of presentation again pointing to the late presentation of this disease.

Breast cancer in this population seems to have features that unfortunately predict poor prognosis in comparison to the west. Besides social and economic factors, the lack of awareness may also be responsible for less turnover of patients to hospital in the early stages of this disease. More work however needs to be done in this regard for better awareness and understanding of this disease so that better diagnostic and treatment options be utilized for our patients with this disease pattern.

CONCLUSION

In our settings the breast cancer is affecting the middle age group more commonly with upper outer quadrant being the commonest site and invasive ductal carcinoma being the commonest variant. The majority of patients presented in the later stages of disease with a moderate grade, more common lymph node metastasis and a size larger than 2 cm.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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